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Ms. Donna R. Searcy, Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

RM-8165

Dear Ms. Searcy :

I am writing in support of a petition from the National Astronomy and Ionosphere Center located near Arecibo, Puerto Rico. The title of their petition is : **Request of Amendment of the Commission's Rules to Establish a Radio Astronomy Communications Zone in Puerto Rico**, and the Rulemaking number is **RM. 8165**. The proposed Communications Zone will have some of the same characteristics as the National Radio Quiet Zone in West Virginia, and it will protect and enhance the scientific possibilities of the great Arecibo Telescope. I hope that you will carefully consider this amendment, and that you will find a way to incorporate its goals into your regulations.

For the United States scientific community, and particularly for radio astronomical research, the protection of the electromagnetic environment of the Arecibo Observatory is of the highest importance. I do not at the moment have any projects underway or planned for the Arecibo telescope, so I am not writing for short term personal interest. However, the NAIC has been central to radio astronomy research at the University of Minnesota in recent years. In the past decade, two graduate students from Minnesota have earned Ph.D. degrees using data which they took at Arecibo, and three of our faculty here have visited the Observatory to carry out observations for their own research, on subjects ranging from clusters of galaxies to dying stars. Much of this research is severely threatened by interference, some projects which were conceived several years ago are now no longer possible because of the degradation of the electromagnetic environment at λ21-cm and longer wavelengths. If the centimeter-wave astronomy group at Minnesota is to continue doing research in this area, some means must be found to reverse this trend toward spectral pollution. I think the proposed amendment is a modest first step, but we must begin somewhere.

Recently I spent a few years as reviewer of proposals for observations using the Arecibo Telescope. (Since the telescope is oversubscribed with requests from astronomers, a careful peer review process is carried out to select the most immediate and important projects for scheduling.) I was struck by the diversity of the population of telescope users, and the variety of their scientific goals for the telescope. Particularly compelling is the number of oversees proposers; scientists from universities and laboratories around the world who find that the Arecibo Telescope is the only facility in the world where they can get the data on planets, stars, or galaxies which they need. This is partly because many countries have even worse interference environments than that of Puerto Rico. For example the Effelsberg Telescope of the Max Plank Institut fur Radioastronomie, near Bonn, Germany, can hardly be used at wavelengths longer than λ21-cm because of the civilian and military interference which fills the Rhine Valley and much of Central Europe. As other parts of the world become unusable for radio astronomy because of their hopeless electromagnetic pollution, the importance of protecting our own resources becomes the more immediate. The focus now is on Puerto Rico.

I am happy that the F.C.C. is considering this issue now. It is an urgent matter, and one on which only the federal government can effect the long term changes which are necessary.

Sincerely,

John M. Dickey

John M. Dickey
Professor

cc : Representative Martin Sabo, 5th Congressional District of Minnesota
Senators Paul Wellstone and David Durenberger
Director, National Astronomy and Ionosphere Center